This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 - 7 (canceled)

8. (currently amended) A method according to ~~claim 1~~ <u>claim 43</u>, wherein running the symbolic model checker to test the behavioral model of the SUT comprises:

evaluating the respective results so as to determine the truth or falsity of the ~~rule~~ <u>rules</u>; and

generating a list of uncoverable elements responsive to the respective results.

9 - 42 (canceled)

43. (new) A method for coverability analysis on software under test (SUT), execution of the SUT generating an outcome, the method comprising:

generating rules regarding behavior of the SUT corresponding respectively to coverability tasks for the SUT;

performing a run of a symbolic model checker to test a behavioral model of the SUT, so as to identify uncoverable elements in the SUT and to produce respective results for the rules;

computing a coverability metric for the SUT as a function of the results;

in response to the coverability metric, identifying a set of the uncoverable elements, such that removal of the set from the SUT is expected to have no effect on the outcome generated by execution of the SUT; and

performing coverage analysis on the SUT while excluding the set of uncoverable elements from the SUT.

44. (new) The method according claim 43, wherein generating the rules comprises generating a number of

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rules less than, by a factor in a range from two to ten, a number of basic blocks in the SUT, and wherein the number of rules is a function of a control-flow structure of the SUT.

45. (new) The method according to claim 43, wherein the set of uncoverable elements comprises dead code.

46. (new) The method according to claim 45, wherein the dead code is configured to implement a future modification of the SUT.

47. (new) The method according to claim 43, wherein the set of uncoverable elements comprises atomic sub-formulae which cannot evaluate to one of true and false.

48. (new) The method according to claim 43, wherein the set of uncoverable elements comprises elements having an incorrect variable definition.

49. (new) The method according to claim 43, wherein the set of uncoverable elements comprises elements having an unused enumerated value.

50. (new) Apparatus for performing coverability analysis, comprising:

a system memory, which is arranged to contain software under test (SUT), execution of the SUT generating an outcome; and

a computer system processor which is configured to access the memory so as to:

generate rules regarding behavior of the SUT corresponding respectively to coverability tasks for the SUT,

perform a run of a symbolic model checker to test a behavioral model of the SUT, so as to identify uncoverable elements in the SUT and to produce respective results for the rules,

compute a coverability metric for the SUT as a function of the results,

in response to the coverability metric, identify a set of the uncoverable elements, such that removal of the set from the SUT is expected to have no effect on the outcome generated by execution of the SUT, and

perform coverage analysis on the SUT while excluding the set of uncoverable elements from the SUT.

51. (new) The apparatus according claim 50, wherein generating the rules comprises generating a number of rules less than, by a factor in a range from two to ten, a number of basic blocks in the SUT, and wherein the number of rules is a function of a control-flow structure of the SUT.

52. (new) The apparatus according to claim 50, wherein the set of uncoverable elements comprises dead code.

53. (new) The apparatus according to claim 52, wherein the dead code is configured to implement a future modification of the SUT.

54. (new) The apparatus according to claim 50, wherein the set of uncoverable elements comprises atomic sub-formulae which cannot evaluate to one of true and false.

55. (new) The apparatus according to claim 50, wherein the set of uncoverable elements comprises elements having an incorrect variable definition.

56. (new) The apparatus according to claim 50, wherein the set of uncoverable elements comprises elements having an unused enumerated value.

57. (new) The apparatus according to claim 50,

wherein running the symbolic model checker to test the behavioral model of the SUT comprises:

evaluating the respective results so as to determine the truth or falsity of the rules; and

generating a list of uncoverable elements responsive to the respective results.

58. (new) A computer software product for performing coverability analysis on software under test (SUT), execution of the SUT generating an outcome, the product comprising a computer-readable medium having computer program instructions recorded therein, which instructions, when read by a computer, cause the computer to:

generate rules regarding behavior of the SUT corresponding respectively to coverability tasks for the SUT;

perform a run of a symbolic model checker to test a behavioral model of the SUT, so as to identify uncoverable elements in the SUT and to produce respective results for the rules;

compute a coverability metric for the SUT as a function of the results;

in response to the coverability metric, identify a set of the uncoverable elements, such that removal of the set from the SUT is expected to have no effect on the outcome generated by execution of the SUT; and

perform coverage analysis on the SUT while excluding the set of uncoverable elements from the SUT.

59. (new) The product according claim 58, wherein generating the rules comprises generating a number of rules less than, by a factor in a range from two to ten, a number of basic blocks in the SUT, and wherein the number of rules is a function of a control-flow structure

of the SUT.

60. (new) The product according to claim 58, wherein the set of uncoverable elements comprises dead code.

61. (new) The product according to claim 60, wherein the dead code is configured to implement a future modification of the SUT.

62. (new) The product according to claim 58, wherein the set of uncoverable elements comprises atomic sub-formulae which cannot evaluate to one of true and false.

63. (new) The product according to claim 58, wherein the set of uncoverable elements comprises elements having an incorrect variable definition.

64. (new) The product according to claim 58, wherein the set of uncoverable elements comprises elements having an unused enumerated value.

65. (new) The product according to claim 58, wherein running the symbolic model checker to test the behavioral model of the SUT comprises:

evaluating the respective results so as to determine the truth or falsity of the rules; and

generating a list of uncoverable elements responsive to the respective results.